Introduction : Multiliteracies and early years innovation: Perspectives from Finland and beyond

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1. Multiliteracies and early years innovation: Perspectives from Finland and beyond

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Introduction

The chapters collected together in this book contribute to three interconnected fields of activity and scholarship. First of all, within curriculum studies is the *theory and practice of multiliteracies* – sometimes found within language arts or literacy (depending on how different countries name their mother tongue instruction as a subject in the curriculum) and sometimes defined as a cross-curricular futures-oriented theme. Second is the *development of multiliteracies by children within early years education* – sometimes conceptualized developmentally in terms of the growing child's entry into their culture (so learning not just print literacy but also digital, media and visual literacies) and sometimes understood as the application of a particular theory of literacy instruction in structured early years provision. And finally, although the contributors to this volume come from Australia, the US, the UK and Norway, it is also a book rooted in *curriculum innovation in Finland and scholarship surrounding the implementation of an imaginative project in that context*—thus the volume as a whole contributes to comparative educational study.

The rest of this Introduction is structured around each of these areas, but before moving on to each theme in detail, we want to show how bringing these three contexts together constitutes an original way of investigating curriculum reform. The book came about as a result of a seminar held as part of *Monilukutaitoa Opitaan Ilolla* (MOI) (The Joy of Learning Multiliteracies), a research and development project funded by the Finnish Ministry of Education and Culture. MOI itself was initiated in response to the ways that the concept of "multiliteracies" was named and placed in national curriculum development in 2016.

Whilst Finland has an extraordinary international reputation for the quality of its education and care, especially when it comes to early years (see below), it does not have a particular history of work in multiliteracies—that term and concept deriving more from an Anglo tradition in Canada, the US, the UK and Australia. The 2016 curriculum mandate, and indeed MOI, thus raised a number of questions:

1. *How might new curriculum content and different pedagogies trouble established practice?* Even though early years education in Finland is highly developed, highly institutionalized and well financed, it may, nevertheless, be impervious to change or reform.
2. *How can innovations be introduced at scale?* A new national curriculum mandate plays out differently in a country like Finland, with its tradition of local accountability and significant local and regional variation. How do innovations in theory and practice, like multiliteracies, work through a system like this?

3. *How can teacher expertise in the area of multiliteracies be supported and developed?* This is not a field where conventionally teachers have much expertise, even though the national education system in Finland is renowned for highly trained educators and respect for teacher autonomy and independence.
4. *How can standards be benchmarked and meaningful learning progressions be described in a more open and emerging conceptual field* (referring to multiliteracies and early years)? What might constitute evidence of changes in learning, understanding, and knowledge?
5. *How can multiliteracies be conceptualized, both as a new school subject and/or a way of accounting for children's learning in contemporary society?* The field of multiliteracies challenges the relationship between home and school knowledge and indeed the ways that contemporary digital practices might be out of step with how schools define literacy learning in practice.

These are both practical and theoretical challenges. By drawing on comparative international experience, MOI attempted to look beyond its program remit to see how it might offer the introduction of multiliteracies into early years in Finland as a case study in curriculum reform. It thus asked a range of practical, conceptual, and theoretical questions needing evidence from teachers, learners, and the development of curriculum materials to begin to answer what difference a program like this might make. The contributions in this volume contribute to that debate. Even though some of the cases described may be of more interest to specialized early years educators, we hope that by framing the project as an exercise in more widespread curriculum reform, and thus asking questions of teachers and what might be at stake in transforming classroom practice, we challenge all progressive education initiatives to take on board the whole system, classroom, teacher expertise, and learner experience dimensions of change.

Even though only half the chapters in this book describe learning, classrooms, and curriculum innovation from Finland in the context of the 2016 curriculum reforms, assumptions about the arrangement of early years education and its associated practices do provide a kind of norm for all of the chapters in the book. Questions about teacher expertise, the assessment of learning and development, as well as the legal framework around curriculum reform and what it might mean to mandate "multiliteracies" are either set against or derived from the Finnish experience. Thus, a very brief introduction to the education system in Finland, curriculum, and teacher education comprise the next section, including a sub-section on early years, given that introducing multiliteracies into early years was an unusual and imaginative development. The second section deals with questions about the meaning and nature of multiliteracies themselves: as a school subject, as pedagogy, as a theory of cultural development, and as an educational project. As a number of chapters in the book draw on MOI, the third section outlines the project in more detail, and will be of interest as background to readers of chapters dealing with the reform in action. Finally, this Introduction offers an overview of the chapters in this volume, showing how and in what ways they address both the history and challenges raised in the preceding discussion.

Education of young children in Finland

Finland performs well on many indicators of development, with high efficiency in education (OECD, 2016c) and high levels of literacy (Miller & McCenna, 2016). A deeply shared commitment to democracy and equality has enabled Finland to develop a world-class welfare

and education system (Castells & Himanen, 2002; Miettinen, 2013). Driven in part by a small population size, Finland's policy-makers have shown a dedication to investment in human capital and development, and hence in mainstream education, health, and welfare services, which has been critical to ensuring the success of the information economy and Finland's overall survival and prosperity. The nation's commitment to early childhood—now shown by researchers to promote human capital, educational equity, social cohesion, and socioeconomic prosperity (Heckman, 2011; Heckman & Masterov, 2007; Heckman, Pinto, & Savelyev, 2013)—has been a core element of Finnish society for decades.

The Finnish Early Childhood Education and Care (ECEC) system is characterized by comprehensive and adaptive ECEC services available to all children and families, backed by a professional ECEC workforce. A quality ECEC program, guided by the National Core Curriculum, promotes local adaptation so as to be responsive to each child's learning and development. The unique features of the Finnish education system, including the intrinsic value it places on childhood and play, its "whole child"-centered approach to ECEC, and the trust it places in teachers' and institutions' self-accountability, instead of externally controlled, high-stakes testing and inspections, continue to attract international interest.

Nonetheless, Finland's ECEC policies and services are in a state of flux and face challenges emanating from major societal, demographic, cultural, and economic changes. In parallel, global educational reform movements are introducing new trends and principles to the Finnish ECEC system, emphasizing increased accountability, standardization, and privatization (Paananen, Kumpulainen, & Lipponen, 2015). It is unclear how these trends—which largely contradict the fundamental beliefs that undergird the Finnish ECEC system—will unfold in the future. Consequently, the present ECEC system of Finland must be read against the backdrop of a dynamic, continually evolving, society.

In Finland, the state plays an important role in developing and managing welfare policies and services. The government's responsibility to provide education, health, welfare, and security is written into the Finnish Constitution, so that citizens are guaranteed the right to an income and care. Universal and integrated ECEC services ensure that children and their families, wherever they live and whatever their social, economic, ethnic, or cultural background, have access to an array of nationally defined, universally offered, ECEC services.

The ideological orientation of the Finnish system sets ECEC deeply within a social welfare context. Finnish society and public policies largely rest on a Nordic welfare model, with a national social contract serving as the basis for universally available public services that aim to provide high-quality education and care for children and their families on fair and equal grounds. Broadly, Finnish society and policies are based on three core principles associated with the Nordic welfare model: *universalism* (social welfare programs for all citizens), *social rights* (citizenship as a basis of entitlement), and *equality* (equal access to services) (Miettinen, 2013).

Early Childhood Education and Care services

All children between the ages of 0 and 6 have a universal right to ECEC services, which may take the form of center-based, family-based, or open services. Importantly, only the final year (pre-primary) is compulsory, followed by primary education beginning the year children turn 7. Although both are compulsory, pre-primary education is considered part of ECEC,

whereas primary education is part of basic education, which extends through secondary education. As pre-primary education is only for half a day, most 6-year-old children in Finland also use other ECEC services in their pre-primary year. A key principle framing Finnish ECEC services is parental choice, and this has led to a wide variety of ECEC options.

The most common form of ECEC provision in Finland is center-based, where children are generally organized into age groups of 0–3 and 3–5. Six-year-olds form a separate group, as they attend a pre-primary education program. Center-based ECEC is offered by municipalities, municipality-outsourced ECEC providers, and private ECEC service providers, which can be either for-profit or not-for-profit, and may specialize in particular activities (such as languages, arts, or sports) or advance a specific pedagogical approach (for example, Montessori or Reggio Emilia). Regardless of these differences, all ECEC service providers must meet Finnish legal requirements for the provision of ECEC, that is, they must adhere to quality measures, such as the National Core Curriculum, adult–child ratios, professional qualifications, and staffing patterns and structures. The municipality and Regional State Administrative Agencies (AVIs, *aluehallintovirasto*) are jointly responsible for overseeing the provision of all ECEC programs in their area (Kumpulainen, 2018).

Pre-primary education, which typically begins in the autumn of the year a child turns 6, is designed to support children's learning, development, well-being, and smooth transition to school. Although pre-primary education was made compulsory in 2015, attendance rates prior to this change were already high, hovering at above 98 percent (Kumpulainen, 2015). Today, compulsory pre-primary education is organized for 700 hours per academic year, or about four hours per day. With costs fully covered by the state, it is provided free of charge to children, including all materials and meals. In addition, children who live over 5km from their pre-primary education provider, or who live where the route is deemed dangerous, are entitled to free transport (EDUFI, 2017).

All Finnish pre-primary education follows both the National Core Curriculum and a local curriculum; Individual Education Plans (IEPs) are also created for each child. Approximately 80 percent of pre-primary students are enrolled in services organized by ECEC centers, with the remaining 20 percent participating in pre-primary education on the premises of primary schools (Kumpulainen, 2015). About 6–8 percent of children attend pre-primary education offered by private, for-profit ECEC providers, situated either in schools or ECEC centers.

Curriculum framework

Finland's national curriculum framework for ECEC covers children between the ages of 0 and 5. Although separate curricula exist for pre-primary and primary education, all three are designed to ensure quality, equity, and effectiveness, and are thematically linked to support children's continuous learning. The curricula are the responsibility of the Finnish National Agency for Education (EDUFI) and are developed in partnership with a range of stakeholders, experts, and citizens, including educational policy-makers, teachers and other ECEC professionals, families, trade unions, professional organizations, and research communities.

The Finnish ECEC and pre-primary curricula are pedagogically underpinned by recognition of the intrinsic value of childhood and an emphasis on the importance of play for development and learning. Drawing on socio-constructivist and sociocultural theories of

learning and development, they incorporate children's own cultures, previous experience, knowledge, skills, and personal interests as important building blocks (EDUFI, 2016a, b). Learning is considered a holistic process in which actions, emotions, sensory perceptions, and bodily experiences interact. As a result, the ECEC curriculum does not set specified learning or performance targets for children under the age of 6; instead, it promotes child-centered pedagogy and humanistic values inspired by the Froebelian approach (Froebel, 1887), which stresses children's agency and autonomy.

Finland is also noted for its adherence to child-centered pedagogy and practice. Enhancing children's trust in their own abilities and strengths as learners—through positive emotional experiences and opportunities for child-directed play, inquiry, and imagination—is regarded as an essential aspect of ECEC (Kumpulainen, 2018). Simultaneously, there is an emphasis on encouraging social interactions and relationships, and creating a sense of community amongst children, ECEC staff, families, and the local community (EDUFI, 2016a, b).

The content of the Finnish National Core Curriculum for ECEC, including pre-primary education, is organized into five core entities (EDUFI, 2016a). These cover: (1) *Diverse forms of expression*, including music, visual arts, crafts, and physical and verbal expression; (2) *Rich world of language*, including linguistic skills and competencies, and language as a tool for thinking, expression, and interaction; (3) *Me and our community*, aiming to help children understand themselves and others while appreciating diversity in society; (4) *Exploring and interacting with my environment*, addressing the development of children's Science, Technology, Engineering, and Mathematics (STEM) skills; and (5) *I grow and develop*, addressing physical activity, food and nutrition, and consumer skills, as well as health and safety issues.

Each of these five areas is framed by the concept of transversal competence—knowledge, skills, values, attitudes, and will—that support personal growth, lifelong learning, working life, and civic activity in the 21st century. Importantly, many transversal competencies are promoted in the Finnish education system across the age spectrum, from ECEC to the end of compulsory schooling, thereby providing crucial learning continuity. These include: thinking and learning skills; cultural competence, interaction, and self-expression; skills to take care of oneself and manage daily life; multiliteracy and participation and involvement in civil society; and, from pre-school onwards, information and communication technology (ICT) skills.

Each municipality is responsible for developing a modified local curriculum for each level of education, beginning with ECEC, which adheres to the provisions of the National Core Curriculum (EDUFI, 2016a, b, c). When preparing this local curriculum, the municipality and local ECEC program service providers (both public and private) specify the language(s) of instruction; structure, topics, form, and evaluation; strategies for family and community participation and communication; and plans to promote equity and equality. They also strategize for cooperation with other partners and stakeholders in the community, including ECEC providers, basic education teachers, and professionals in the healthcare and social welfare sectors.

Assessment of learning and development

The Finnish National Core Curriculum for ECEC, pre-primary, and basic education (including primary education) stresses cooperation between the child's home and ECEC setting staff. This perspective is predicated on the belief that a foundation for constructive dialogue between everyone involved in a child's life enhances their overall development and well-being (EDUFI, 2016a). For example, the co-construction of the IEP creates an important basis for parent–teacher partnerships, which are further strengthened by parent–staff conferences and parents' evenings.

Although the primary focus of parental engagement is supporting individual children's development, parents are also invited to participate in activities that contribute to the broader development of ECEC in the local context, through participation in parent/board associations, input into the local curriculum, and participation in its evaluation. The renewed law on early childhood education (*Early Childhood Education and Care Act*, 580/2015), which came into effect in 2015, reinforces the rights of both parents and children in the planning, execution, and evaluation of ECEC. Children's views are taken into account in a variety of ways (for example, by asking children to share their experiences of the activities organized for them in multimodal ways) so as to simultaneously support self-expression and language skills (EDUFI, 2016a).

Although there are no early learning performance requirements or outcome specifications for children's learning and development in ECEC, teachers are required to systematically observe and document how their pedagogical work fosters each child's learning; they are also required to factor these observations into planning future activities. This formative assessment needs to take account of the general objectives established by the ECEC curriculum, along with individual objectives outlined in children's IEPs. Throughout the year, teachers provide parents with regular feedback on their child's progress. As an indication of the trust accorded children, providers are also required to promote children's own capabilities for evaluating their own learning—the ability to self-assess by children is considered a core competency for the 21st century (EDUFI, 2016a).

Teacher professional requirements and preparation

Compared to other OECD (Organisation for Economic Co-operation and Development) countries, Finland's requirements for the pre-service training of ECEC staff are relatively rigorous (OECD, 2016b). For example, at least one-third of staff working with children aged 0–6 in center-based ECEC in Finland must have a Bachelor's degree or equivalent in early childhood education (that is, they must be ECEC teachers). For primary education, a teacher must hold a Master's degree in education.

The pre-service ECEC teacher education program typically lasts between three and four years, and consists of 180 European Credit Transfer System (ECTS) credits, with an additional 60 ECTS in special needs education required for those who wish to become special needs ECEC teachers. Teacher education programs for primary education last between five and six years, and consist of an additional 120 ECTS required for a Master's degree (altogether, 300 ECTS).

The teacher education programs are ambitious and demanding, with an emphasis on both theory and practice in pedagogical studies. Teacher education includes supervised field practice in different ECEC programs, including pre-primary classrooms, and an emphasis on

integrating research. This is aimed at teachers developing their own practical theory and adopting a research-oriented attitude towards their work.

Entrance into teacher education programs is highly competitive, as the university-level degree and nature of the teaching profession attracts many young people into the profession. Flexibility in pedagogical methods and materials also proves to be an attractive aspect of the work, as teachers are considered "co-designers" of children's learning, together with the child, family, and community. Interestingly, however, despite the profession's popularity, average salaries of ECEC and primary education teachers in Finland are below the OECD average (OECD, 2016a, b).

Multiliteracies

The article by the New London Group, "A pedagogy of multiliteracies", published in 1996 (Cazden et al., 1996), is a touchstone text. This itself has been the subject of numerous commentaries and further books (see, for example, Serafini & Gee, 2017). It attempted to be a political intervention, a summary of research, and a normative project in its scope and ambition. Central to the article is a vision of literacy practices mainly deriving from sociocultural studies of language use and social semiotic theory. In some ways the New London Group's position now represents a form of academic orthodoxy. It has been extraordinarily influential on generations of scholars, and is often a gateway to the study of literacy and language use in academic circles. To an extent, and building on its roots in the New Literacies tradition, the idea of "multiliteracies" was a way to bring into focus a contemporary critique, the multiliteracies position shared a certain outsider perspective aiming to reframe what constituted the definition of literacy itself. The fact that over 20 years later we are, to a great extent, retracing some of this political argument also shows that for all its intellectual success, making a case for its impact on everyday teacher practice remains as urgent a challenge as when the article was first published.

It is also unclear whether the curriculum authorities in Finland completely endorsed these radical assumptions. The word "multiliteracy" in some ways belongs to a vocabulary that includes "multilingual" and "multicultural" as part of its scope. If the 1996 multiliteracies article derives from an explicitly radical critical tradition, the word itself also has a less threatening, more conservative, appeal, particularly in situating transformations in modern communication—beyond print and especially including multimedia, the digital, and the embedding of film into everyday platforms—as part of common sense in the modern world. In other words, whilst the 1996 article was concerned with the ways that multiliteracies could be used to deconstruct what it considered restrictive and traditional literacy pedagogies, the same term could be used by society at large simply as a way of describing all the different devices, media, and practices now being used as part of the everyday digital. Similarly, the essay itself is oriented towards an explicitly pedagogic intervention, as discussed below, but the term can be used more factually simply to record changes in the environment for children growing up today.

The article stresses an agnostic attitude towards the dominance of any one medium over any other. It argued that as literacy practices work in social contexts, attention needs to be focused on the production and circulation of meanings (beyond technical control of any one medium) in order to understand of the real power of literacy. The use of design as a master metaphor rather than trying to remix "reading" or "writing"—terms perhaps irredeemably

associated with print, however successful the media literacy tradition had been by that time in reworking reading—also betrays an interest in moving literacy away from its associated material practices to a more abstract theory of communication.

The pedagogy of multiliteracies offered a model of pedagogy dependent on four components: situated practice (trying to draw on the experience of students' meaning-making); overt instruction (with an interest in an explicit metalanguage to describe meaning-making design); critical framing (supporting students to interpret and reflect rather than simply use literacy instrumentally); and transformed practice (suggesting that the acquisition of multiliteracies will support students to become designers and meaning-makers of their social futures).

Whilst the impact of the article has been widespread, its main legacy on practice was the radical curriculum briefly promulgated in the Australian state of Queensland at the turn of the century, known as "new basics" (Luke, 2018), while its impact on literacy theory and academic studies of young people's literacy practices has been far more widespread. The first decades of the 21st century saw a particular interest in "multimodality," which was certainly one of the social semiotic offspring of the multiliteracies article itself, and which picked up on the ambition to create a more universal metalanguage with important consequences for the relationship of writing to other meaning-making disciplines.

Research on children's opportunities to engage with and learn about multiliteracies in their life-worlds is ambivalent. A recent international review of digital literacies by Kumpulainen and Gillen (2017) found that children have varying degrees of opportunity to engage with and learn from digital technologies and media in their homes, depending on how parents frame media use and family interactions with and around technology and media. In addition to parental mediation styles, there is evidence of an association between children's engagement with multiliteracies and parents' educational, cultural, and socioeconomic background, and their digital skills and attitudes (see, for example, Livingstone et al., 2015). Overall, as with earlier studies of literacy, the evidence points to the importance of the home context and parents' mediation practices for children's engagement with multiliteracies prior to formal schooling (Kumpulainen & Gillen, 2017). Existing international research also suggests that teachers have little awareness of children's literacies in the home, including their use of digital technologies and media (Aubrey & Dahl, 2014). Similarly, parents across Europe report knowing little about their children's digital literacies in the nursery or kindergarten or at school (Livingstone et al., 2015).

In sum, recent evidence about children's everyday lives inside and outside formal education poses a key challenge for policy and educational practice. Because multiliteracy is rooted in the communicative practices of children's families and communities, its promotion in formal education demands a multicultural, anti-elitist approach that cherishes and draws on children's cultural and linguistic diversity based on collaboration and knowledge exchange across home, community, and institutional settings.

Multiliteracy in Finnish education

The most recent curricula for early childhood (aged 0–5), pre-primary (age 6), and basic education (aged 7–16) in Finland define multiliteracy as a set of skills and knowledge for making sense and producing meanings via different modes and media for diverse purposes and audiences in diverse communication settings (EDUFI, 2014, 2016a, b). Thus, we can see

immediately how the term's incorporation into the formal curriculum is at odds with the 1996 article.

Yet, the Finnish curricula are informed by a broad understanding of multiliteracy, where literacy relates to any symbol that communicates meaning, referring not only to print-based reading and writing of texts, but also to pictures, sounds, videos, graphics, and combinations of these. In other words, multiliteracies encompass print-based, visual, media, and digital literacy, as well as disciplinary literacies such as science and mathematics. In the curricula, multiliteracy is defined as a transversal competence—a combination of knowledge, skills, and values—that needs to be incorporated across the curriculum (EDUFI, 2014, 2016a, b). In Finnish education, multiliteracy is hence not taught as a subject or learning content of its own, but rather as part of other curriculum contents.

Barriers to promoting multiliteracies in education

Whilst the broad case for multiliteracies is established among education scholars well beyond Finland, it has nevertheless proved difficult to achieve clarity and approval for the concept amongst education professionals and policy-makers. In fact, multiliteracy has not informed curriculum reform in many countries other than Finland. Although most societies expect their education systems to prepare young people for the future, both the concept and practice of multiliteracies in education remain relatively underdeveloped and surprisingly restricted.

In Finland, there are still varying definitions and approaches to multiliteracy that make it hard to grasp the exact meaning of multiliteracy, and hence to systematically and consciously promote multiliteracies in education. To put it bluntly, multiliteracy is approached in some texts as little more than an "add-on"—a motivating factor to tackle the increasing disinterest in traditional print literacy amongst children and young people. For instance, by introducing new digital technologies and media, it is hoped to promote interest and engagement in more traditional literacy, and in school learning in general, by linking children's informal digital literacies to formal schooling. In other documents (see, for example, http://monilukutaito.fi), multiliteracy is reduced to media education. In a similar vein, Finnish education policy documents (including the National Core Curriculum define multiliteracy as a 21st-century competence to be promoted throughout the curricula and across various disciplines, including science, mathematics, and the arts (EDUFI, 2014, 2016a, b). On this broader definition, multiliteracy takes more account of agency, identity, and citizenship. Overall, it is reasonable to conclude that multiliteracy remains a slippery concept that is hard to define—and, therefore, to systematically promote in educational practice.

Consequently, in Finland, teachers are currently ill prepared to conceptualize and consciously promote multiliteracy in education or, consequently, to implement the new curricula requirements. Although the inclusion of multiliteracy in curriculum texts is an important and necessary step, this is not in itself sufficient. Ensuring that multiliteracies become an integral part of educational practice from early years onwards will require professional development coupled with research and development of pedagogy and learning environments.

***Monilukutaitoa Opitaan Ilolla* (MOI, The Joy of Learning Multiliteracies)**

In response to the evidence of children's unequal opportunities to engage with and learn about multiliteracies in their life-worlds and acknowledging the importance of multiliteracies in children's current and future lives—work, civic, and personal—the Finnish Ministry of Education and Culture launched a program call for research and development in the area of multiliteracies, with a specific focus on promoting young children's multiliteracies among children up to the age of 8.[1]

The MOI development program (see www.monilukutaito.com) aims to promote multiliteracy among young children aged 0–8. The name of the program—The Joy of Learning Multiliteracies—is intended to communicate the motivation, diversity, and tolerance behind both learning and teaching multiliteracy as well as the joy of being, doing, and practicing things together. The acronym MOI comes from the program's name in Finnish, *Monilukutaitoa Opitaan Ilolla*, and means "Hi!"

MOI targets teachers and educational professionals working in early years education, pre-school, and initial primary education (Years 1 and 2 of compulsory schooling), as well as those working in the library and cultural sectors. MOI integrates educational policy, research and practice to develop and promote learning environments, and pedagogies that shift attitudes towards multiliteracies and enhance young children's multiliteracies across their life-worlds. MOI also seeks to reinforce professional expertise by helping teachers to make informed judgments about the development of children's multiliteracies.

A distinct and somewhat novel feature of MOI is the attempt to promote multiliterate practices across and between educational and cultural sites, ranging from early years centers, schools, libraries, and museums to more informal activities, embracing the more conventional print, film, and media literacies as well as new digital modes of communication and expression across the curriculum. This pluralist attitude addresses the need for education policy and practice to prepare children for all forms of creative and critical expression and understanding in contemporary society's rich and diverse practices of social communication (Serafini & Gee, 2017). The joy and motivation to learn multiliteracies is also central to Finnish educational efforts (EDUFI, 2014, 2016a, b). The Finnish National Core Curriculum for early years, pre-primary, and early primary education provides fertile ground for this holistic and hybrid approach.

The MOI program addresses the promotion of children's multiliteracies in practical and theoretical ways, based on empirical data drawn from Finnish early years, pre-primary, and early primary education, as well as from cultural settings, homes, and communities. The program aims to enhance multiliteracies among culturally and linguistically diverse children in inclusive and consequential ways. Collaboration and knowledge exchange between early years education centers, pre-primary, and primary education settings and libraries, and other cultural institutions aim to create a solid foundation for developing children's multiliteracies as a continuum across contexts and education levels from early years onwards (see also Kumpulainen & Erstad, 2016; Kumpulainen & Sefton-Green, 2014).

Ten communities situated in the metropolitan area of Helsinki are participating in the MOI program, each including an early years center, a primary school, a local library, and other local cultural providers (for example, theater, museum, science center, and community center) within the community. The participating children and their families represent diverse social and cultural backgrounds; in addition to those whose mother tongue is Finnish and/or Swedish, more than 20 percent of the children in each community also speak other languages.

Altogether, about 1500 children and their guardians are participating in the MOI program, along with 500 teachers.

The research and development work involves close collaboration between the academics, teachers, and community members in the field in co-designing the learning environments and documenting, reflecting on, and analysing their works across settings and over time from the perspective of the children, teachers, families, and institutions. Observation, video documentation and analysis, children's productions and artifacts, interviews, and surveys of teachers, parents, and the children themselves all contribute to building the MOI data corpus.

The MOI research methodology is inspired by the principles of the so-called "social design" approach (Gutiérrez & Jurow, 2016), based on collaborative design and democratic forms of inquiry. Social design experiments involve the development of research–practice partnerships with multiple parties to address issues of social justice and equity, and to provide more equitable learning opportunities, making the co-designed interventions more sustainable and capable of evolving over time. Design-based research develops theory-driven learning environments whilst simultaneously conducting experimental studies to assess those innovations. This typically involves iterative cycles of implementing, assessing, and refining practice. The social design methodology draws on the principles of formative interventions developed by Engeström and colleagues (see, for example, Engeström, 1987, 2008; Engeström, Miettinen, & Punamäki, 1999; Virkkunen, et al., 2001).

Drawing on sociocultural theories, the MOI program proposes that researching children's multiliteracies must take account of *temporality* (how children's multiliteracies develop and manifest over time) and *interrelated levels of analysis* (personal, relational, and institutional). The *personal* level of analysis unpacks the diverse agendas, interests, and identities that children and teachers bring to their engagement with multiliteracies. Attention is paid to how culturally and linguistically diverse children's learning of multiliteracies, as well as their agency and identity, changes as they relate to operational, cultural, and critical domains. From the teachers' perspective, MOI research unpacks changes in their developing understanding of multiliteracies and pedagogical thinking in supporting children's multiliteracies in holistic and culturally sensitive ways. At the *relational* level of analysis, the program investigates how teachers and other social and material resources support and/or hinder diverse children's engagement with multiliteracies. Analysis focuses on changes in epistemological (knowledge-related), ontological (identity-related), and ideological dimensions (values) as these manifest in emerging social interactions between children, teachers, and other significant adults in the children's social ecologies. At the *institutional* level of analysis, the program will investigate the sociocultural contextualization of pedagogies and learning environments within and between early years education centers, schools, cultural institutions, and children's homes. In so doing, the program seeks to illuminate the conditions and barriers that mediate productive collaboration between educational institutions, cultural institutions, and children's homes.

The MOI program's multilevel approach is designed to enhance understanding and promotion of children's multiliteracies through (1) designed learning activities; (2) communities of practice; (3) knowledge construction and creation; and (4) agency and identity formation. The program strives to generate insights into teacher education, curriculum development, and the design of pedagogies and learning environments that will promote multiliteracies for every child in and across social ecologies, in Finland and beyond, in culturally responsive ways.

Pedagogy

The pedagogical principles of the MOI program highlight the agency and imagination of children and teachers. By agency we refer to the children and adults' ability to initiate, control, and develop activities as well as to question them (see, for example, Kumpulainen et al., 2018). Agency is supported by approaches that are child-oriented and culturally diverse. The MOI pedagogy principles are encapsulated in the following elements: child and adult agency; learning by doing; meaningfulness and experiential learning; the sense of community and inclusion; conceptualization; critical analysis; as well as innovation.

The pedagogical principles promoted by MOI involve multisensory, playful, and story-like learning environments that encourage children to use their imaginative, creative, and collaborative capacities (see also Jacobs, 2013; Leander & Boldt, 2013). In these rich textual environments, the culture produced by the children themselves comes into dialogue with the culture produced for them in the form of fairy tales and stories, rhymes and poetry, music, TV programs and films, digital games, and apps. This rich, multimodal textual environment invites children to investigate, interpret, use, and produce texts for multiple purposes and audiences.

MOI learning environments are designed to form flexible, pedagogically coherent, and continuous entities across the curriculum, drawing on children's life-worlds, including their home cultures and literacies. These learning environments can be situated outdoors and indoors, in nearby nature areas, parks and cities, in cultural institutions, and in digital and virtual spaces. As shifting between different learning environments and contexts is considered important in learning multiliteracies, children's recreational and home culture cannot be overlooked.

As multiliteracy includes media and digital literacies, MOI also introduces a range of texts in digital modes and environments. Children are familiarized with various digital tools and media, apps, and games in meaningful, playful, and creative ways to reinforce the significance and safe use of these tools in their everyday life. Digital technologies and media are utilized to produce a wide range of content and meaning, and digital documentation also plays an important role in meaning-making, experimentation, production, and knowledge exchange, as, for instance, between home and school.

The pedagogical development efforts in the MOI program are based on a child-oriented approach, imagination, cultural diversity, dialogical meaning-making, as well as consistent learning that generates new ideas. This pedagogical thinking is linked to what is known as "transliteracy," which defines multiliteracy as a constantly evolving and innovative process. Here, pedagogical activities aim to promote understanding of diversity, engagement, and innovativeness when different cultures, people, and texts cross paths. Hence, the aim is not to conceptualize or promote multiliteracies solely in terms of the mainstream culture, but rather at the intersections and in the interaction processes between different cultures and their texts (Frau-Meigs, 2013; Serafini & Gee, 2017).

Outline of the book

This book is organized in three sections. The first section explores how introducing multiliteracies into Australian, Finnish, and US contexts creates a very distinct set of challenges for teachers. Together these chapters reflect on what kinds of teacher education, professional development, and co-research might help change teacher attitudes towards literacy and get teachers to think more expansively about what's at stake in introducing multiliteracies into their classrooms.

Chapter 2 by Lisa Kervin and Barbara Comber begins with a brief discussion of the nature of teachers' work and implications for teachers' professional learning and change, especially the need to position teachers as researchers, and then details an example of one early childhood teacher's practice, outlining key principles that have emerged from research where teachers have explored and engaged with multiliteracies. The authors conclude by restating some of the conditions of teachers' work that might support them to work and play with multiliteracies. They conclude that designing and enacting a pedagogy of multiliteracies can enable teachers and children to disrupt typical education discourses, roles, and expectations as they reconceptualize learning and teaching opportunities to incorporate new and varied tools and materials, and use space in different ways to create new kinds of texts. Teacher research throughout this process plays an important role as teachers check the effects of their enacted practices on different students.

Chapter 3 by Heidi Sairanen, Jonna Kangas, and Sara Sintonen explores how Finnish early years teachers use and make sense of the materials developed by the MOI program for promoting young children's multiliteracies. The chapter focuses on teachers' use of Whisper of the Spirit cards, which consist of open-source, open ended, and non-prescriptive activity cards. All of the four teachers were chosen for this study because of their interest in the development of multiliteracies pedagogy. The authors ask how these teachers promote children's multiliteracy learning through versatile play, digital production, and multimodal practices through the MOI material, and how the MOI material is adapted by teachers in local contexts. In this respect, we look into the teachers' agency in designing and conducting multiliteracy pedagogy, which we consider to be connected to autonomy, one of the four key elements of the Finnish teaching profession, and through that, in the transformative agency that emerged in the teachers' narrations.

In Chapter 4, Jessica Zaccher Pandya draws on data from a four-year study of children's video production to examine some of the trends and tensions in teachers' digital multiliteracies work with their 8-, 9- and 10-year-old students. As teachers sought to recontextualize digital multiliteracies practices as schooled practices, conflicting, often contradictory, notions of creativity and assessment surfaced; additionally, pressures for curricular standardization and large-scale, high-stakes testing influenced teacher and researcher practices over time. The author uses sketches of four teachers to consider the developmental trajectories of teacher and students' digital multiliteracies skills in context, focusing on tensions between creativity, assessment, and curriculum that resulted from this process. The author also addresses challenges involved in teacher education and development in relation to digital multiliteracies.

Together these three chapters begin to question how difficult it is for teachers just to adapt existing practice in the face of such a theoretical challenge to teaching and learning as posed by multiliteracies. The next set of four chapters examines the borders and boundaries of subject definitions in more detail, looking at the relationship between multiliteracies and scientific understanding, environmental education, and indeed, the ways that the institutions

of literacy—especially libraries—can be adapted and transformed by a pedagogy of multiliteracies.

In Chapter 5, Jenni Vartianen and Kristiina Kumpulainen draw on Green's (1988) three-dimensional model of literacy, and propose a framework for researching and enhancing children's engagement and learning opportunities in science from a dynamic literacy perspective. The chapter shows how early science education that draws on multiliteracies pedagogy can provide children with rich opportunities to engage in operative, cultural, and critical dimensions of scientific literacy embedded in children's life-worlds. The chapter demonstrates how young children benefit from understanding how they can actively participate in the existing scientific culture as it occurs in children's life-worlds.

In Chapter 6, Chin-Chin Wong and Kristiina Kumpulainen discuss how to nurture young children's learning of ecological literacy (eco-literacy) on climate change, encompassing seven core skills: empathy, collaboration, communication, creativity, systems thinking, critical thinking, and problem-solving. The chapter draws on the Riddle of the Spirit project designed to support children's eco-literacy in making connections between themselves and climate issues through seven playful, narrative, multimodal, explorative, and creative activities via a cross-cutting narrative story on Finnish myths around forests. The chapter makes visible how young children's engagement with and learning of eco-literacy, including sustainability-oriented knowledge, skills, and empathy of the natural world, can be supported through novel designs informed by multiliteracies pedagogy.

Rebekah Willett, in Chapter 7, uses boundary theory to analyse the role of public libraries and librarians working at the intersection of cultural practices around reading and literacy in the US, and the ways a theory of multiliteracies might inform this space. The author argues that the tenets of public libraries potentially afford a radically different view of literacy than the frequently narrow views constructed through government initiatives, dominant research paradigms, and formal education sectors. The analysis includes a discussion of two children's library programs as examples of different approaches to literacy. These two examples are used as illustrations of different ways librarians examine, construct, and reconstruct the meaning of literacy in relation to other institutional understandings of literacy. The chapter argues that a multiliteracies approach can assist librarians' boundary work as they expand a view of literacy to incorporate social aspects of meaning-making, multimodal forms of communication, and a focus on transformation and remaking in communicative processes.

Finally, in Chapter 8, a collaboration between English and Finnish authors, Jackie Marsh, Alexandra Nordström, Heidi Sairanen, and Minna Shkul, outlines a cross-cultural project in which children in a primary school in England exchanged information and shared their maker work with children in an ECEC center in Helsinki (Chapter 8). The work was focused on the Moomins, characters in a set of books written by the Swedish-speaking Finnish writer Tove Jansson. The English children participated in a range of maker activities in which they used a range of both non-digital and digital resources and tools to engage with the Moomin stories. The chapter outlines the skills and knowledge developed in these activities, mapped to the 3D model of literacy developed by Green (1988) and informed by Colvert's (2015) work on mixed-reality design. These maker literacies, it is argued, should be valued alongside the traditional literacy practices in which the children also engaged. The chapter outlines the value of makerspaces for schools, and also emphasizes the value of international projects that provide opportunities for cross-cultural exchange.

The final set of chapters explores how children develop forms of multiliteracy play, expression, and communication. Here attention is focused on children's perspectives, including children's joy and pleasure, in their play and learning communities, and their digital and offline worlds. In Chapter 9, Ola Erstad explores how multiliteracies are embedded in different activities and places where children (aged 5–6) participate within a community (across contexts), and how it is related to transitions from kindergarten/pre-school to becoming a student at school (over time). Multiliteracies are defined both in the way children interact with different modalities and technologies, and how this interaction is part of different activities and settings within a community. The author doesn't just focus on one specific technology, but rather on activities across different places and contextual settings as possible "sites of learning." The empirical examples presented in this chapter are taken from an ethnographic study in a multicultural community in Oslo examining how multiliteracies as part of children's lives provide an insight into the interplay between informal and formal practices, with implications for the learning trajectories of these children.

In Chapter 10, Alexandra Nordström, Kristiina Kumpulainen, and John Potter deal with the relationship and meaning of affect in children's learning of multiliteracies. In particular, they focus on the processes and pedagogical conditions for the emergence of joy during the course of young children's multiliteracies learning endeavors. The multiliteracies project drawn on focused on Finnish nature and myths, and was carried out by a Finnish pre-primary school group, resulting in an exhibition in a local library. The chapter shows how joy is evoked when children are afforded opportunities to create, make, and share different texts and interests in the course of their multimodal, multisensory, and playful activities.

The final chapter of the book, Chapter 11, by Michael Dezuanni, discusses the multiliteracy practices children undertake when participating in the digital game Minecraft, and through watching YouTube Let's Play videos in which other players commentate on their own game play. The concept of "peer pedagogies" is introduced as a way to explain how knowledge is exchanged through these multiliteracy practices. The chapter brings together three related ideas: (1) Minecraft is a digital platform for the production of content that is circulated on other digital platforms, particularly YouTube, by social media entertainers such as Let's Players; (2) the relationship between Let's Players and their fans is one in which there is less social distance than in formal pedagogical relationships, enabling forms of peer pedagogy to emerge; and (3) peer pedagogies provide the conditions for the circulation of Minecraft designs and for redesign practices. The chapter concludes by asking if formal education systems are willing to accept the value of learning through peer pedagogies and multiliteracies practices on digital platforms.

The book thus begins by exploring the challenges involved in bringing out-of-school multiliteracies into the classroom, and concludes by examining what happens when we look at the new "cultural narratives of learning" (Levinson, Foley, & Holland, 1996) now developing in the digital age in informal learning spaces, considering how these, too, are now posing challenges for formal education—even where it is as progressive and enlightened, as in the studies described throughout the book.

Note

[1] The Ministry chose a team of researchers led by Kristiina Kumpulainen at the Playful Learning Center of the University of Helsinki to execute the MOI program from 2017 onwards. The program is undergoing.

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